

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012938**Date Inspected:** 06-Apr-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girders (OBG)**Summary of Items Observed:**

Quality Assurance inspector (QA) Michael Foerder was at the American Bridge/Flour (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. OBG Field Inside Splice 2E/3E D-1, D-2 UT in progress
2. OBG Field Inside Splice 2E/3E E-1 FCAW
3. OBG Inside Field Splice 3E/4E D-1, E-2 SMAW and FCAW

**Field Splice 2E/3E Face D-1 and D-2**

The QA inspector periodically observed QC inspectors Jessie Cayabyab and Jim Cunningham performing Ultrasonic Testing (UT) from the inside face of the OBG transverse field splice. The QC inspectors were observed utilizing a zero degree transducer for verification of any planar discontinuities and a 70 degree transducer/wedge combination for the shear wave scan. At this time several indications were marked by the inspectors for further evaluation from the opposite face and appeared to be rejectable per code requirements. The work progressed throughout a majority of the shift, was not completed and appeared to be progressing in general conformance with the contract documents with the exceptions noted.

**Field Splice 2E/3E Face E-1**

The QA inspector periodically observed the in process Flux Cored Arc Welding (FCAW-G) being performed by ABF welding personnel Mitch Sittinger and Song Tao Huang between Y locations designated 2700mm – 5270. QC inspector Bernard Docena was noted to be present in order to monitor the progress and ensure the welding was

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within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D1.5-3042A-1 and supporting Procedure Qualification Records (PQR). Prior to initiating the welding the welder and helper increased the root opening by grinding in order to comply with the WPS requirements in areas identified by the QC inspector. The preheat and interpass temperature was verified by the QC and QA inspector to be greater than 65° Celsius (C) and the parameters were verified to be 230 amps, 24 volts and a measured travel speed of 220mm/min. The welder is in the process of placing the root and fill passes at this time. The work progressed throughout the morning shift, was not completed by the end of the QA inspectors shift and appeared to be progressing in general conformance with the contract documents.

### Field Splice 3E/4E D1 and E2

The QA inspector periodically observed ABF welding personnel Chun Fai Tsui performing Shielded Metal Arc Welding (SMAW) at weld number designated D1 for approximately 760mm in close proximity to the longitudinal diaphragm. QC inspector Bernard Docena was noted to be present in order to monitor the progress and the adherence to the WPS noted as ABF-WPS-D1.5-1040-B. The welding amperage was verified to be 110 amps and the preheat and interpass temperature was within the established guidelines. The work progressed throughout the shift, was completed and accepted by the QC inspector and appeared to be in general conformance with the contract documents.

The QA inspector periodically observed ABF welding personnel James Zhen performing FCAW at weld number designated E2 for approximately 920mm in close proximity to the longitudinal diaphragm. QC inspector Bernard Docena was noted to be present in order to monitor the progress and the adherence to the WPS noted as ABF-WPS-D1.5-3040A-1. The welding parameters were verified to be 230 amps, 23.5 volts with a measured travel speed of 230 mm/min and the preheat and interpass temperature was within the established guidelines. The work progressed throughout the shift, was completed and accepted by the QC inspector and appeared to be in general conformance with the contract documents.

### Summary of Conversations:

No significant conversations held on this date for this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)813-3677, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Foerder,Mike	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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